

Cervical Cancer Mortality in Low Income Women – Inevitable or Avoidable?



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Research Questions

- Are cancers detected at early stages?
 - ◆ What are the demographic and health (e.g. comorbidity, nursing home residency) characteristics of women whose cancer is not detected at early stages (i.e. in situ and local)?



Research Questions

- Are low income women getting appropriate treatment?
 - ◆ Compared to non-Medicaid women in the SEER registry, are the rates of surgery equal?
 - ◆ How many women insured by Medicaid received treatment after cervical cancer diagnosis?
 - ◆ What are the characteristics of women who receive treatment versus those who do not?



Research Questions

- What are the characteristics of women who died from cervical cancer?
 - ◆ Were they diagnosed at death?
 - ◆ Did they receive treatment for cervical cancer prior to death?
 - ◆ Are there other clues that may lend insight as to why these women died?

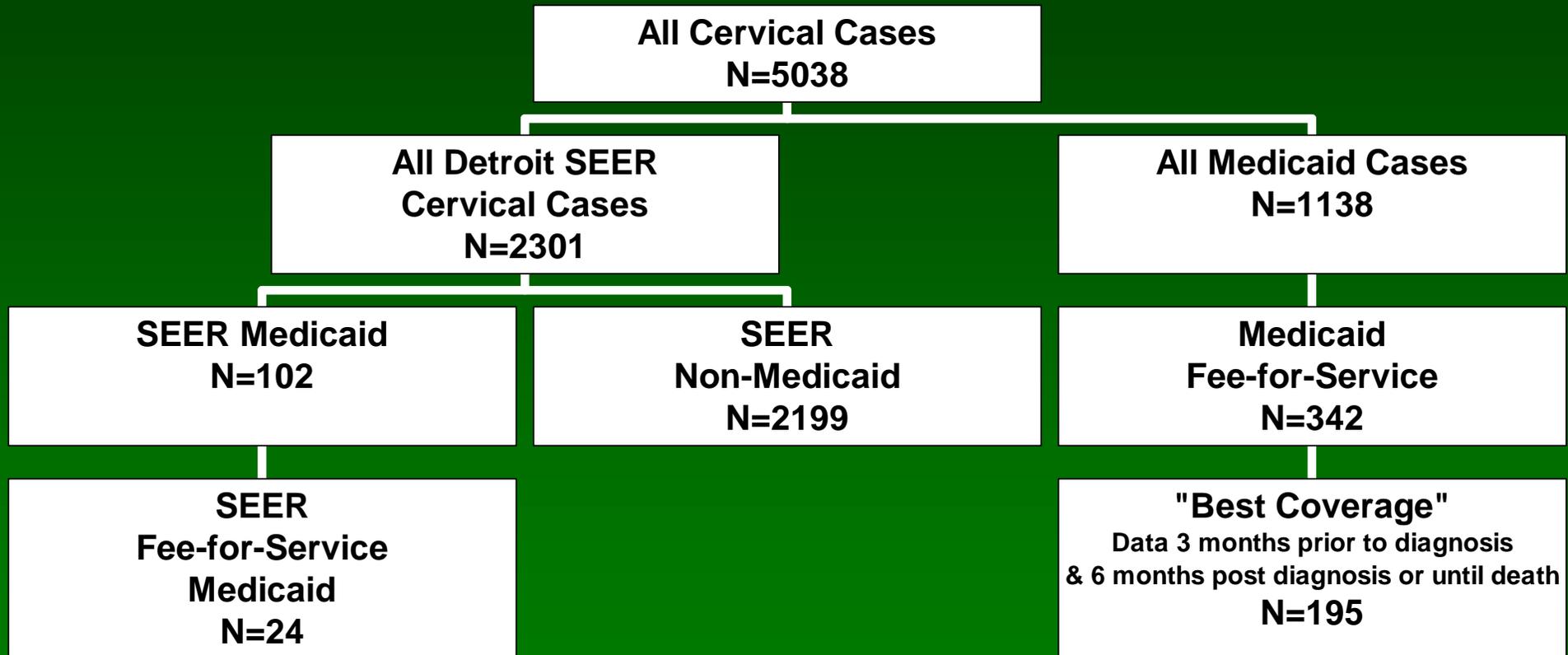


Data

- All Cervical Cancer Cases in Michigan Cancer Registry (1996 – 1997)
- Cervical Cancer Deaths matched with State Death Certificate Registry (1996 – 1998)
- All Detroit SEER Cervical Cancer Cases Detroit SEER Registry (1996 – 1997)
- All Medicaid Claim files (1996-1997) for Fee-for-Service Cervical Patients.



Data



Registry Variables

All Cervical Patients

- Age
- Race
- Diagnosis date
- Stage
- Date of Death
- Cause of Death
- Medicaid Eligibility

All Detroit SEER Patients

- Marital status
- Percent poverty in census tract
- Surgery type
- Radiation



Medicaid Variables

All Medicaid Patients

- Date of enrollment
- Category of coverage

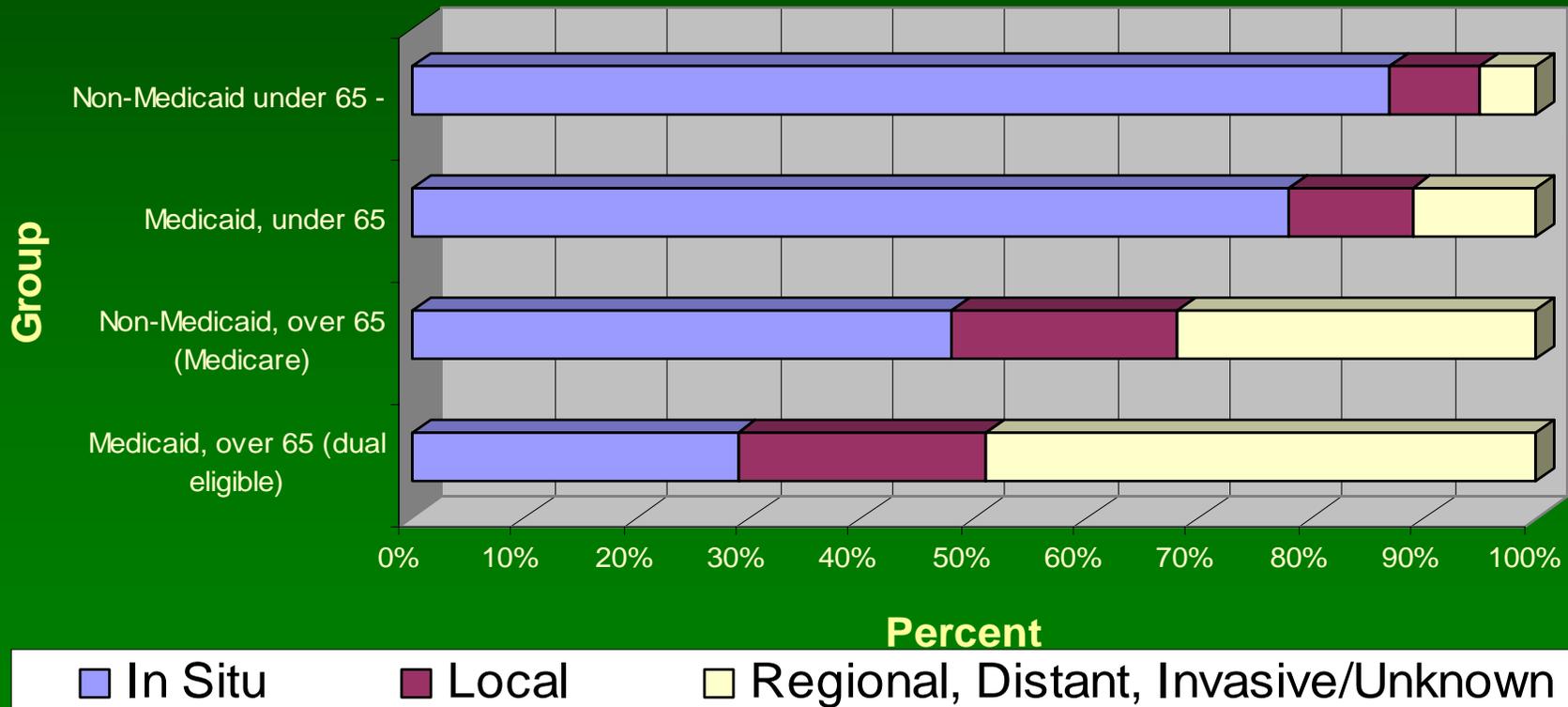
Medicaid Fee-for-Service Patients

- Comorbidities (long-term care, mental illness, HIV/AIDS, other cancers, etc.)
- Number of claims for care
- Types of care provided



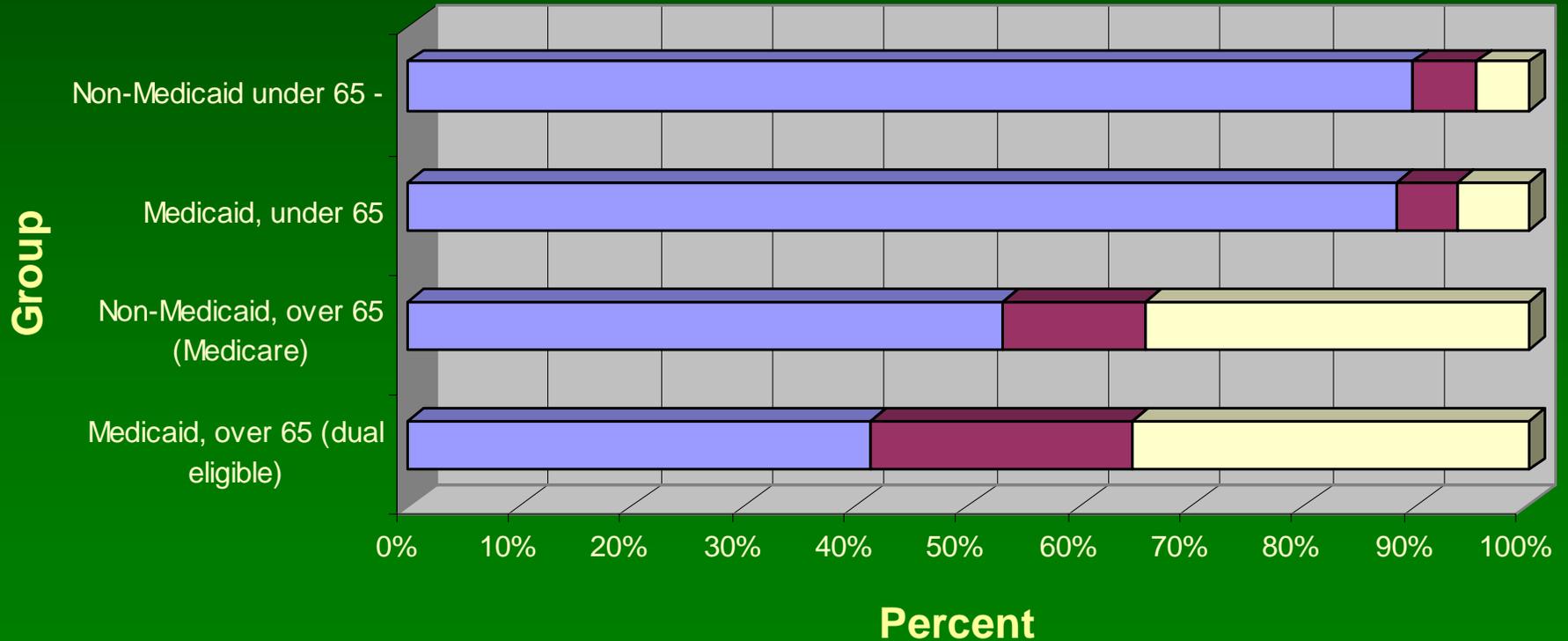
Are Cancers Detected at Early Stages?

Stage at Which Michigan Women Were Diagnosed
in 1996-97 of Cervical Cancer
by Age and Insurance Groups



Are Cancers Detected at Early Stages?

Stage at Which 1996-97 SEER Registry Women Were Diagnosed with Cervical Cancer by Age and Insurance Group



In Situ

Local

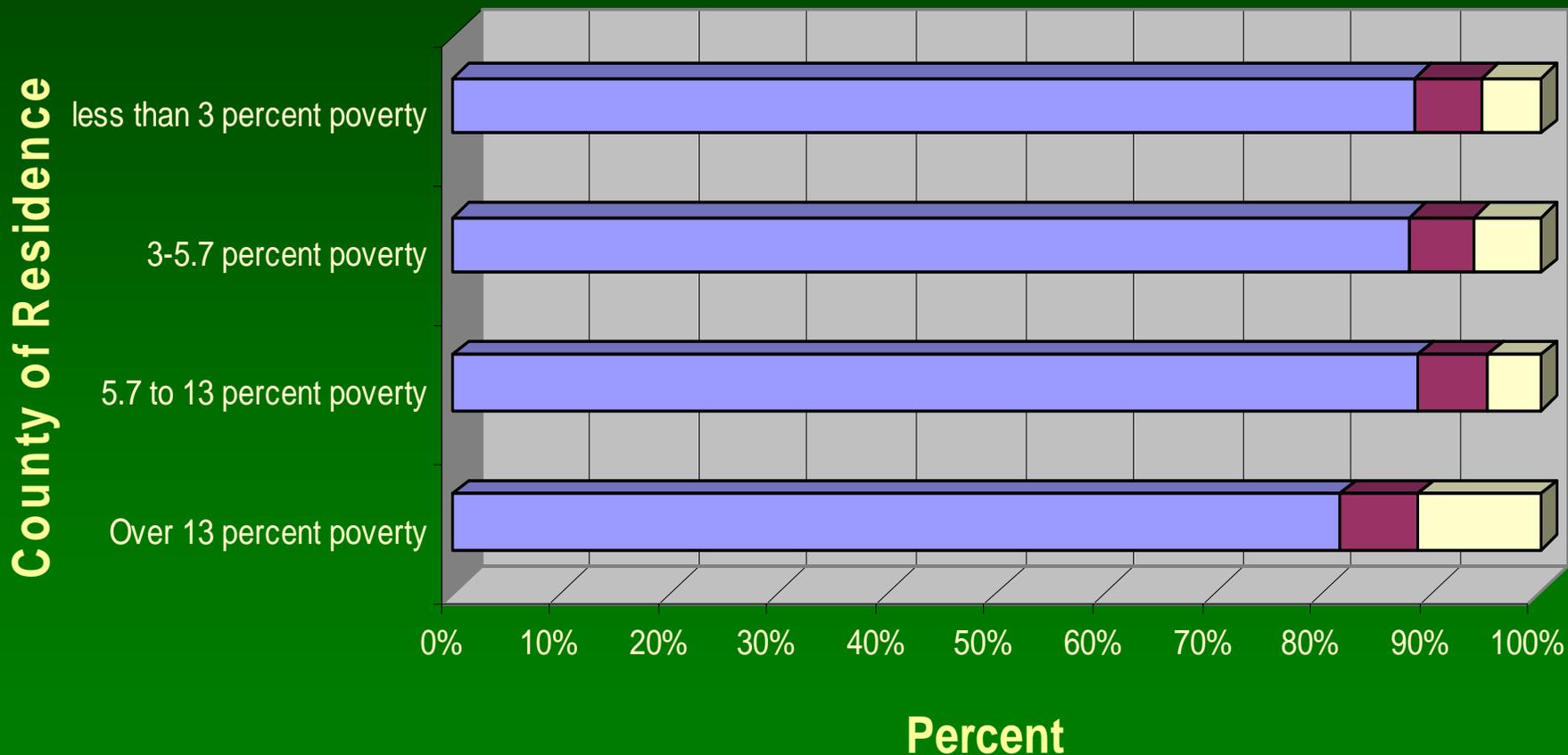
Regional/distant/Invasive/Unknown

Are cancers detected at early stages?

Cervical Cancer Stage at Diagnosis by Poverty Status – Detroit SEER, 1996 and 1997 (N = 2215)

% Poverty in Census Tract	In situ	Local	Regional, Distant, Invasive/Unknown
Less than 3%	479 (88%)	34 (6%)	29 (5%)
3 – 6%	499 (88%)	34 (6%)	35 (6%)
6 – 13%	484 (89%)	35 (6%)	27 (5%)
More than 13%	456 (82%)	40 (7%)	63 (11%)

Stage of Cervical Cancer at Diagnosis for SEER Women by Percent of Poverty in Their County of Residence



In Situ

Local

Regional/distant/Invasive/Unknown

health characteristics of women

whose cancer is not detected at

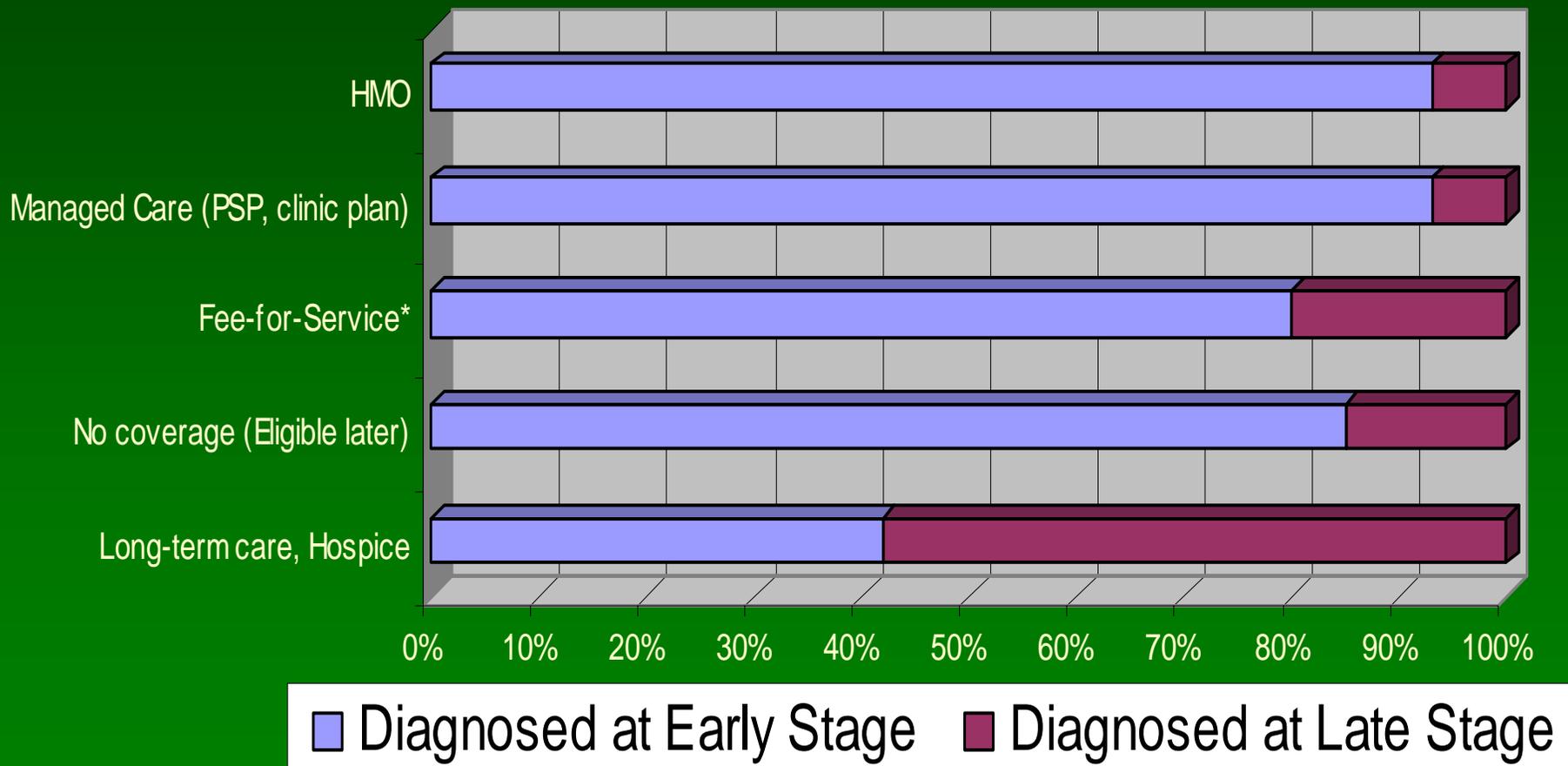
Characteristics of Cervical Cancer Patients by Stage – All Cases, Michigan,

1996 and 1997 (N = 5038)

early stages?

		Medicaid	
		Early	Late
Age	25-44	816 (85%)	53 (36%)
	45-64	106 (11%)	60 (41%)
	65+	35 (4%)	34 (23%)
Race	White	546 (57%)	90 (61%)
	Black	272 (28%)	45 (31%)
	Other	139 (15%)	12 (8%)
		Non-Medicaid	
		Early	Late
Age	25-44	2932 (80%)	77 (28%)
	45-64	551 (15%)	108 (39%)
	65+	198 (5%)	93 (34%)
Race	White	2607 (71%)	199 (72%)
	Black	138 (10%)	49 (18%)
	Other	693 (19%)	30 (10%)

Type of Medicaid Plan at Time of Diagnosis for Women with Cervical Cancer and Eligible for Medicaid



*includes some with special coverage

Are low income women getting appropriate treatment?

Comparison of Surgical Type by Stage and Medicaid Status – Detroit SEER Registry (N = 2301)

Non-Medicaid				
	No Surgery	Cryosurgery, D&C, local excision	Hysterectomy	Pelvic Exenteration
In situ, Local	207 (10%)	1572 (77%)	265 (13%)	1 (0%)
Regional	61 (67%)	4 (4%)	20 (22%)	6 (7%)
Distant	17 (65%)	1 (4%)	2 (8%)	6 (23%)
Invasive Unknown	25 (89%)	1 (4%)	2 (7%)	0
Medicaid				
In situ, Local	13 (13%)	78 (79%)	8 (8%)	0
Regional	5 (71%)	1 (14%)	1 (14%)	0
Distant	2 (67%)	0	1 (33%)	0
Invasive Unknown	2 (100%)	0	0	0

Treatment of Cervical Cancer – Michigan Medicaid Fee-for Service (N = 285)

	No Prior Coverage (N=90)	“Complete” Coverage (N=195)
Late Stage Diagnosis	34 (38%)	31 (16%)
Surgery	39 (43%)	118 (61%)
No cervical cancer treatment	46 (51%)	69 (35%)
Died within six months of diagnosis	23 (26%)	26 (13%)

Characteristics of Cervical Cancer Patients who died – Michigan Medicaid (N = 69)

Patient Characteristics		
Age	Mean (SD)	54 (17.6)
Race	White	52 (75%)
	Black	16 (23%)
	Other	1 (1%)
Stage	Early	18 (26%)
	Late	51 (74%)
Plan Type	Fee-for-Service	34 (49%)
	Long-term care, Hospice	1 (1%)
	HMO	4 (6%)
	Managed Care (PSP), clinic plan	7 (10%)
	No Coverage	23 (33%)
Months Enrolled Prior to Diagnosis	Mean (SD)	4 (7.4)
Months Enrolled After Diagnosis	Mean (SD)	10.2 (7.4)
Diagnosed at Death		6

Reasons Care May Not Be “Typical”

Reasons Care May Not Be “Typical”	Frequency	Percent
Died of a different cancer	10	14%
Had one or more months of other insurance	24	35%
Had less than 5 months of valid coverage	13	19%
Coverage started 2+ months after diagnosis	4	6%
Had more than 2 months LTC coverage	2	3%
Had mental health/substance abuse, comorbidities	3	4%
Typical care	13	19%
Total	69	100%

Description of Women with “Typical” Care

Cancer Stage	Age	Months Survived	Claims after Diagnosis	Description of inpatient & major claims
2	32	22	299	Radical hysterectomy after diagnosis, cancer spread quickly
2	33	14	70	Radiation therapy started 5 months after diagnosis
2	40	17	155	Uterine les destructn, excise node, radio implant, total hysterectomy, large bowel exterioration
2	48	24	456	Subtotal hysterectomy, radiation, chemo, several bowel, ulcer, infection hospitalizations
3	25	16	665	Cervical biopsy, lymph node excision, radio implant
3	35	10	399	Radiation, chemo, urinary problems, bowel exterioration
3	39	16	544	Lymph node removed, radio-implant
3	41	6	206	Radiation, endocervical biopsy, nephrostomy
3	42	6	116	Radical dissection of illiac nodes, nephrostomy
3	45	6	36	Large bowel exteriorization
3	56	15	121	Cervical biopsy, nephrostomy in ICU
3	59	9	508	Anemia, endocervical biopsy, nephrostomy
5	80	9	284	Cauterize cervix, radiation, radio-implant, nephrostomy

Main Results

- Racial differences in stage, treatment, and death are not apparent.
- Older patients tend to be diagnosed at late stage.
- Women with no coverage prior to cervical cancer diagnosis and subsequent Medicaid coverage were more likely to die.

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Are Cancers Detected at Early Stages?

Cervical Cancer Stage at Diagnosis – All Cases Michigan, 1996 and 1997 (N = 5038)

	In situ	Local	Regional, Distant, Invasive/ Unknown
Medicaid, under 65	811 (78%)	111 (11%)	113 (11%)
Non-Medicaid, under 65	3180 (87%)	303 (8%)	185 (5%)
Medicaid, over 65	20 (29%)	15 (22%)	34 (49%)
Medicare, over 65	140 (48%)	58 (8%)	93 (32%)

Are Cancers Detected at Early Stages?

Cervical Cancer Stage at Diagnosis by Insurance Status –
Detroit SEER, 1996 and 1997 (N = 2301)

	In situ	Local	Regional, Distant, Invasive/ Unknown
Medicaid, under 65	83 (88.3%)	5 (5.3%)	6 (6.4%)
Non-Medicaid, under 65	1831 (89.7%)	116 (5.7%)	94 (4.6%)
Medicaid, over 65	7 (41.2%)	4 (23.5%)	6 (35.3%)
Medicare, over 65	79 (53%)	19 (12.8%)	51 (34.2%)

Characteristics of Cervical Cancer Patients by Stage – Michigan Medicaid (N = 1138)

	Early Stage	Late Stage
Patient Characteristics		
Age Mean	35 years	53 years
Race		
White	568 (57%)	95 (64%)
Black	279 (28%)	44 (29%)
Other	142 (15%)	10 (7%)
Enrollment Characteristics		
Plan Type at diagnosis		
Fee-for-Service	205 (80%)	51 (20%)
Long-term care, Hospice	10 (42%)	14 (58%)
HMO	231 (93%)	17 (7%)
Managed Care (PSP), clinic plan	291 (93%)	22 (7%)
No Coverage	252 (85%)	45 (15%)
Months Enrolled Prior to Diagnosis	5.1 months	7.5 months
Months Enrolled After Diagnosis	11.3 months	12.3 months

What are the characteristics of women who died from cervical cancer?

Characteristics of Cervical Cancer Patients who died – All Patients (N = 172)

Patient Characteristics	Medicaid	Non-Medicaid
Age Means (SD)	53	58
Race		
White	48 (74%)	91 (85%)
Black	16 (25%)	15 (14%)
Other	1 (1%)	1 (1%)
In situ, local	18 (28%)	25 (23%)
Regional	22 (34%)	42 (39%)
Distant	12 (18%)	25 (23%)
Invasive, Unknown	13 (20%)	15 (14%)